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ABSTRACT

Using nationally representative data from students in grades 9 to 12 from the national Youth Risk Behavior Surveys (YRBS) of 1991, 1993, 1995, and 1997, this study examined changes in high school students' participation in health risk behaviors. Ten specific health risk behaviors were identified, each of which poses potential immediate and long-term health problems. Findings show that the 1990s were a period of substantial change, some good and some bad, in students' participation in specific health risk behaviors. A reduction in sexual activity and changes in contraceptive use were accompanied by declines in the teen pregnancy rate, birthrate, and sexually transmitted disease rate. Declines in fighting and weapon-carrying parallel positive changes in associated health outcomes. Decreases in the prevalence of suicidal thoughts were not accompanied by changes in suicide attempts. Marijuana and cocaine use increased among high school students between 1991 and 1997, but more recent data indicate that the rates of substance abuse among students are leveling off or even declining. Some differences in risk taking were noted for age, grade, and gender. In general, high school students reported a shift toward less overall risk taking. Hispanic students were the exception. They did not experience the same shift towards less risk taking as other students. (Contains 4 tables, 1 box, 1 figure, and 17 endnotes.) (SLD)

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Changes in Risk-Taking among High School Students, 1991–1997: Evidence from the Youth Risk Behavior Surveys

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Changes in Risk-Taking among High School Students, 1991–1997: Evidence from the Youth Risk Behavior Surveys

A handful of preventable health-risk behaviors—violence, substance use, suicide, and sexual activity—are responsible for much of the mortality and morbidity experienced in adolescence and early adulthood.[1] Adolescents' participation in many of these health-risk behaviors has changed in recent years. Newspapers report increases in marijuana use among high school students one day and declines in their sexual or criminal activity another. Because changes in the prevalence of specific health-risk behaviors vary, some increasing and some declining, shifts in adolescents' overall exposure to health-risks are difficult to pinpoint. While it is well established that many risk behaviors co-occur—teens who engage in one are likely to engage in another[2]—changes in the extent and patterns of multiple risk-taking are unknown.

The purpose of this chapter is to identify changes in overall risk-taking among high school students during the recent decade. As background, we show changes in the prevalence of specific risk behaviors between 1991 and 1997. The second, and central, part of this investigation is an examination of the patterns of and changes in high school students' multiple risk-taking over this period. This information is an important part of understanding adolescents' overall exposure to health-risks and monitoring efforts to reduce those risks.

Measuring Health-risk Behaviors

Using nationally representative data from students in grades 9 to 12 from the national Youth Risk Behavior Surveys (YRBS) of 1991, 1993, 1995, and 1997, we examine changes in high school students' participation in health-risk behaviors. The surveys are designed to track changes in behavior over time among high school students, using comparable measures and samples in each year (see box 1). These changes are measured at the aggregate level; the surveys cannot monitor changes over time in an individual student's behavior.

We identify 10 specific health-risk behaviors: regular alcohol use, binge drinking, regular tobacco use, marijuana use, cocaine use, physical fighting, carrying a weapon, suicidal thoughts, suicide attempt, and sexual intercourse (see table 1 for complete definitions). While these behaviors do not comprise an exhaustive list of adolescent health-risks, they reflect areas of critical public concern.[3] The consequences associated with these 10 behaviors vary considerably, but each poses a range of potential immediate and long-term health problems.

YRBS is an important national data source for monitoring levels and changes in adolescent health.[4] However, measures from the YRBS will not necessarily yield the same estimated prevalence of risk behaviors as other surveys do, given differences in samples, questionnaire details, and survey administration. For example, the YRBS is administered in school; other studies suggest that in-school surveys tend to obtain higher estimates of adolescent risk taking than household surveys.[5] In addition, normal sampling variance and measurement error are likely to result in some differences between surveys. While the findings of this study should not be expected to precisely match estimates from other samples, YRBS provides an internally consistent source of data on a range of adolescent risk behaviors for examination of changes over time. This chapter focuses on changes between 1991 and 1997.

All tables and figures in this chapter are descriptive in nature. They describe associations only; causal inferences should not be drawn. Establishing that one behavior occurs with another does not mean that one causes the other. In addition, all behaviors are not measured with reference to the same time period. Questions about substance use and weapon-carrying refer to the 30 days prior to the survey; those about suicidal thoughts, suicide attempts, and fighting refer to the year before the survey; and sexual intercourse is a lifetime measure.

Changes in Single Risk Behaviors

The 1990s have been a period of substantial change, some good and some bad, in students' participation in specific health-risk behaviors.

Between 1991 and 1997, substantial changes occurred in students' participation in key health-risk behaviors.[6] For example, there was an unprecedented but modest decline in the proportion of students with past sexual experience (see figure 1a). This reduction in sexual activity, and changes in contraceptive use, were accompanied by declines in the teen pregnancy rate, birthrate, and sexually transmitted disease rate.[7] Declines in fighting and weapon-carrying parallel positive changes in associated health outcomes.[8] For example, the youth homicide rate dropped between 1994 and 1996 after more than a decade of substantial increase.[9] Deaths due to firearms, the primary source of youth homicide, also declined.[10]

The proportion of high school students who reported thinking about suicide dropped from 29 percent in 1991 to 21 percent in 1997. Unfortunately, decreases in the prevalence of suicidal thoughts were not accompanied by changes in suicide attempts (see figure 1b). The prevalence of suicide attempts among students remained stable over the same period. Death registration records reveal little change in the rate of suicide-related mortality among adolescents during this period, paralleling the stable rate of suicide attempts among high school students.[11]

Garnering much public attention are the substantial increases in marijuana and cocaine use among high school students between 1991 and 1997. The share of students who reported marijuana use in the last 30 days increased from 15 percent to 26 percent (see figure 1c). Cocaine use, while far less common, increased from 2 percent to 3 percent. Rates of regular tobacco use also increased slightly,[12] while the prevalence of regular alcohol use and binge drinking remained stable. Regular alcohol use was the most common type of substance use reported by high school students in both 1991 and 1997. However, with the large increases in the prevalence of marijuana use, marijuana became almost as common as regular alcohol use in 1997.

More recent data from another national survey of high school students, Monitoring the Future, suggests that rates of substance use among students are leveling off, or even declining, after a period of increase. Daily cigarette smoking among 10th- and 12th-grade students declined by 2.2 percentage points between 1997 and 1998, while the prevalence of illicit drug (including marijuana) and alcohol use remained stable after increasing significantly during the early to mid-1990s.[13] Future analyses will determine if the next wave of the YRBS, collected in spring 1999 (and not yet available), will reveal these same changes.

Differences by Grade, Gender, and Race

Data from 1991 and 1997 are examined further in table 2, which reports the prevalence of individual health-risk behaviors for all students in each year and also separates the behaviors by grade, gender, and race/ethnicity. Here, we highlight key demographic differences in the changes between 1991 and 1997 .

GRADE: In both years, students in grades 11 and 12 were more likely than students in other grades to engage in substance use and sexual activity, while students in grades 9 and 10 had higher prevalences of suicidal and violent behaviors. Changes in the share of students having ever engaged in sexual intercourse differed by grade, falling more sharply among students in grades 11 and 12 (from 65 percent to 56 percent) than among students in grades 9 and 10 (from 44 percent to 40 percent). Changes in other behaviors were similar among 9th- and 10th-grade students and 11th- and 12th-grade students.

GENDER: Both genders experienced declines in some risk-taking, but the magnitude of the change differed between male and female students. Between 1991 and 1997, female students reported a 24 percent decline in the prevalence of physical fighting, compared to a 9 percent decline among male students, contributing to the existing gender difference in the prevalence of physical fighting. The share of

students having ever engaged in sexual intercourse declined more among males than among females. As a result, boys in 1997 had participated in sexual intercourse at rates similar to those of girls: 49 percent compared to 48 percent.

RACE: Hispanic students did not report substantial declines in any of the 10 risk behaviors.[14] In contrast, non-Hispanic black and non-Hispanic white students reported declines in weapon-carrying, physical fighting, suicidal thoughts, and sexual intercourse. Thus, the downward shift in the risk behaviors of non-Hispanic students is responsible for the overall decline in risk behavior reported by all high school students.

Changes in Overall Risk-Taking

High school students reported a shift toward less overall risk-taking.

While the prevalence of some health-risk behaviors increased and others declined, high school students reported an overall shift toward less risk-taking between 1991 and 1997 (see figure 2). This general downward shift can be explained by two more specific declines. First, the share of students participating in *any* health-risk behavior declined gradually during this period, from 80 percent in 1991 to 75 percent in 1997—a change equivalent to a 29 percent increase in the proportion of students not involved in any health-risk behavior. By 1997, one-fourth of 9th- to 12th-grade students did not participate in any of the risk behaviors examined here.

Second, a decline in the share of students engaged in *multiple* (two or more) health-risk behaviors also contributes to the shift toward less risk-taking. Between 1991 and 1997, the share of students engaging in two or more risk behaviors fell from 57 percent to 53 percent. When students participating in 2 to 4 risk behaviors and students participating in 5 to 10 risk behaviors were examined separately, we found that declines in multiple risk-taking occurred almost exclusively in the share of students engaging in 2 to

4 health-risk behaviors (41 percent in 1991 versus 37 percent in 1997).

Reductions in overall risk-taking did not extend to the highest-risk students. The share of highest-risk students—those involved in five or more risk behaviors—did not change from 1991 to 1997. Throughout this period, about 16 percent of all students participated in five or more health-risk behaviors. Within this group, the average number of health-risk behaviors remained fairly stable (6.0 in 1991 versus 6.1 in 1997, data not shown).

Hispanic students were an exception.

Most groups of students reported similar changes in overall risk-taking from 1991 to 1997. They had declines in the share of students engaging in any risk-taking, declines in multiple risk-taking, and no change in the share of highest-risk students (see table 3). These changes were similar by gender and grade, maintaining the greater overall risk-taking of male students as compared to female and the greater overall risk-taking of 11th- and 12th-grade students as compared to 9th- and 10th-grade students. However, these general changes did not extend to all races. While white and black students reported similar declines, Hispanic students did not. Hispanic students exhibited a smaller increase in the share engaging in no risk behaviors. Most importantly, the share of Hispanic students engaging in five or more risk behaviors increased from 13 percent in 1991 to 19 percent in 1997.

Table 4 further examines this increase in the share of highest-risk students among Hispanics. It shows that the increase was concentrated among students in grades 9 and 10, whose participation in five or more risk behaviors nearly doubled from 11 percent in 1991 to 20 percent in 1997. In contrast, the share of Hispanic students in grades 11 and 12 participating in five or more risk behaviors increased only three percentage points, from 16 to 19 percent. Among non-Hispanic white and non-Hispanic black students, participation in five or more risk behaviors remained relatively stable from 1991 to 1997 for all grades. The exception to the stable rates in this category among blacks and whites was non-

Hispanic white students in grades 11 and 12, who reported a small decline in this highest-level risk-taking, from 20 percent in 1991 to 17 percent in 1997.

The YRBS surveys did not collect further information that would permit more detailed analysis of risk-taking among Hispanic students. In particular, we cannot distinguish by different ethnic and cultural subgroups among Hispanics, although other research finds cross-sectional differences in health-risk behaviors among Hispanic students by immigrant status and country of origin.[15]

Conclusions

The 1990s have seen substantial changes in students' participation in many health-risk behaviors, including declines in physical fighting, weapon-carrying, sexual intercourse, and suicidal thoughts. The prevalence of different types of substance use increased or remained stable.

While the prevalence of some health-risk behaviors increased and others declined, there have been declines in overall risk-taking among high school students. There has been a sizable *increase* in the share of students who engage in none of the 10 risk behaviors examined here and a sizable *decrease* in the proportion of students who engage in multiple risk behaviors.

The share of highest-risk students—those engaging in five or more health-risk behaviors—remained stable from 1991 to 1997.

Hispanic students did not report the same shift toward less risk-taking as other students. The share of Hispanic students engaging in five or more risk behaviors grew, primarily among those students in grades 9 and 10.

Box 1

Design of the Youth Risk Behavior Survey

The Youth Risk Behavior Survey is conducted by the Centers for Disease Control and Prevention to assess the behaviors deemed most responsible for influencing health among high school students in the United States.[16] In 1991, 1993, 1995, and 1997, biennial school-based surveys were conducted nationally. Each of the four surveys used a similar design to obtain a nationally representative sample of students in grades 9 through 12, representing all public and private high school students in the 50 states and the District of Columbia. Details of the sample design for each of the four surveys are described elsewhere.[17] State and local-based surveys similar to the Youth Risk Behavior Survey are conducted by state and local education agencies as part of a larger surveillance effort. Only the national surveys are examined here.

All students in selected classes within each sampled school were eligible to participate. The self-administered questionnaires, containing approximately 90 items, were completed by students in the classroom during a regular class period. Students recorded their responses directly on a computer-scannable form. The surveys were designed to protect privacy and allow for anonymous participation. Overall response rates in 1991, 1993, 1995, and 1997 were 68 percent, 70 percent, 60 percent, and 69 percent, respectively; the sample sizes were 12,272 students, 16,296 students, 10,904 students, and 16,262 students, respectively.

NOTES

1. Sells, C.W., and R.W. Blum. 1996. "Morbidity and Mortality among U.S. Adolescents: An Overview of Data and Trends." *American Journal of Public Health* 86: 513–19.

2. Osgood, D.W. 1991. *Covariation among Adolescent Problem Behaviors*. Report prepared for U.S. Office of Technology Assessment (OTA). Washington, D.C.: OTA; Donovan, J.E., and R. Jessor. 1985. "Structure of Problem Behavior in Adolescence and Young Adulthood." *Journal of Counseling and Clinical Psychology* 53: 890–904.

3.For further information on changes in other health-risk behaviors measured in the YRBS, see *Fact Sheet: Youth Risk Behavior Trends*, http://www.cdc.gov/nccdphp/dash/yrbs/trend.htm, accessed 7/9/99.

4. National Center for Health Statistics. 1999. *Healthy People 2000 Review, 1998-99*. Hyattsville, MD: Public Health Service.

5. Santelli, J., Lindberg, L.D., Abma, J., Sucoff, C. and Resnick, M. 1999. "A Comparison of Estimates and Trends in Adolescent Sexual Behaviors in Four Nationally Representative Surveys" presented at the 1999 Annual Meeting of the Population Association of America; Horm, J., Cynamon, M., and Thornberry, O. 1996. "The Influence of Parental Presence on the Reporting of Sensitive Behaviors by Youth", *Health Survey Research Methods Conference Proceedings*. Hyattsville, MD: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Health Statistics; U.S. Department of Health and Human Services. 1994. *Preventing Tobacco Use Among Young People: A Report of the Surgeon General*. Atlanta, Georgia: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.

6. The change from 1991 to 1997 had to be statistically significant ($p < .05$) when included in a multivariate model that controlled for the distribution of students by gender, grade, and race/ethnicity. Intermediate changes may have also occurred, but are not examined here. Significance tests were calculated to adjust for the complex sampling design of the YRBS. All estimates are weighted to adjust for students' nonresponse and the oversampling of black and Hispanic students.

7. For declines in teen births, see Ventura, S.J., et al. 1998. *Teenage Births in the United States: National and State Trends, 1991–97.* Hyattsville, Md.: U.S. National Center for Health Statistics. For declines in teen pregnancy, see Henshaw, S. 1999. *Teenage Pregnancy: Overall Trends and State-by-State Information.* New York: The Alan Guttmacher Institute. For declines in sexually transmitted diseases among adolescents, see Centers for Disease Control and Prevention (CDC). 1998. *Sexually Transmitted Disease Surveillance.* Atlanta, GA: CDC. For increases in condom use among adolescents, see Sonenstein, F.L., et al. 1998. "Changes in Sexual Behavior and Condom Use among Teenaged Men: 1988 to 1995." *American Journal of Public Health* 88 (6): 956–59. For increases in condom use among adolescents, see Sonenstein, F.L., et al. 1998. "Changes in Sexual Behavior and Condom Use among Teenaged Men: 1988 to 1995." *American Journal of Public Health* 88 (6): 956–59. For increases in condom use among adolescents, see Sonenstein, F.L., et al. 1998. "Changes in Sexual Behavior and Condom Use among Teenaged Men: 1988 to 1995." *American Journal of Public Health* 88 (6): 956–59. Also see Kaufmann, R.B., et al. 1998. "The Decline in U.S. Teen Pregnancy Rates, 1990–1995." *Pediatrics* 102 (5): 1141–47.

8. For more extensive information on recent changes in other violence-related behaviors among high school students, see Brener, N.D., et al. 1999. "Recent Trends in Violence-Related Behaviors among High School Students in the United States." *Journal of the Americen Medical Association* 282 (5): 440–46.

9. U.S. Department of Health and Human Services (DHHS). Office of the Assistant Secretary for Planning and Evaluation. 1998. *Trends in the Well-Being of America's Children and Youth.* Table HC 1.4A, p. 143.

10. DHHS. Office of the Assistant Secretary for Planning and Evaluation.1998. *Trends in the Well-Being of America's Children and Youth.* Table HC 1.4B, p. 144.

11. DHHS. Office of the Assistant Secretary for Planning and Evaluation. 1998. *Trends in the Well-Being of America's Children and Youth.* Table HC 1.5, p. 149.

12. The YRBS reports significant increases in current cigarette smoking (at least once in the 30 days preceding the survey), from 27.5 percent in 1991 to 36.4 percent in 1997. CDC. 1999. *Fact Sheet: Youth Risk Behavior Trends.* http://www.cdc.gov/nccdphp/dash/yrbs/trend.htm accessed 7/9/99.

13. Johnston, L.D., O'Malley, P.M., and Bachman, J.G. 1998. *National Survey Results on Drug Use from the Monitoring the Future Study, 1975-1997.* Rockville, MD: National Institutes of Health. National Institute on Drug Abuse, NIH Pub. No. 98-4345. Institute for Social Research, University of Michigan.

14. Students were asked to self-identify their race/ethnicity from the following categories: "Hispanic," "White — not Hispanic," "Black — not Hispanic," "Asian or Pacific Islander," "Native American or Alaskan Native," or "Other." In 1991, 8.8 percent of students identify themselves as Hispanic, compared with 9.8 percent in 1997.

15. Brindis, C., Wolfe, A.L., McCarter, V., Ball, S., and Starbuck-Morales, S. 1995. "The

Associations Between Immigrant Status and Risk-behavior Patterns in Latino Adolescents." *Journal of Adolescent Health*, 17:99-105; Harris, K.M. 1998. "The Health Status and Risk Behavior of Adolescents in Immigrant Families." In *Children of Immigrants: Health, Adjustment, and Public Assistance*, edited by D.J. Hernandez. Committee on the Health and Adjustment of Immigrant Children and Families, Board on Children, Youth, and Families. Washington, D.C.: National Academy Press.

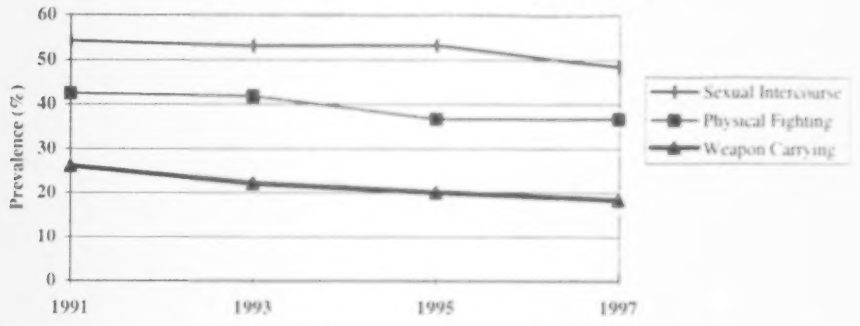
16. Kolbe, L.J., L. Kann, and J.L. Collins. 1993. "Overview of the Youth Risk Behavior Surveillance System." *Public Health Report* 108 (supp. 1): 2–10.

17. Kann, L., W. Warren, B. Collins, and L.J. Kolbe. 1993. "Results from the National School-Based 1991 Youth Risk Behavior Survey and Progress toward Achieving Related Health Objectives for the Nation." *Public Health Report* 108 (supp. 1): 47–67; Centers for Disease Control and Prevention. 1995. "Youth Risk Behavior Surveillance: United States, 1993." *Morbidity and Mortality Weekly Report*, 44 (SS-1): 1–56; Centers for Disease Control and Prevention. 1996. "Youth Risk Behavior Surveillance: United States, 1995." *Morbidity and Mortality Weekly Report* 45 (SS-4): 1–84; Centers for Disease Control and Prevention. 1998. "Youth Risk Behavior Surveillance: United States, 1997." *Morbidity and Mortality Weekly Report* 47 (SS-3): 1-8.

Table 1:
Definition of Health Risk Behaviors as Measured in YRBS

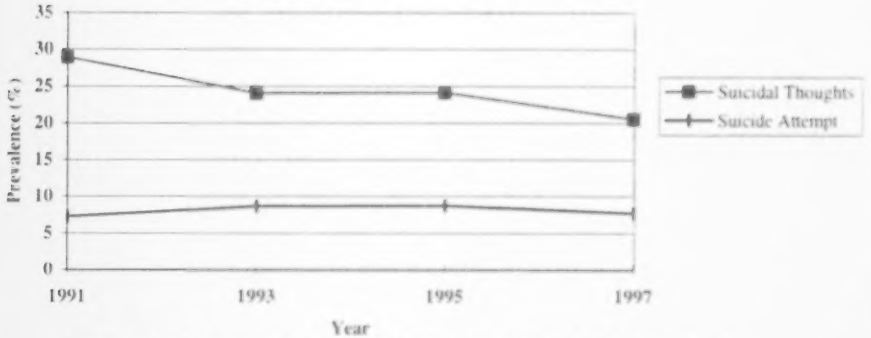
BEHAVIOR	DEFINITION
Regular Alcohol Use:	Had a drink on three or more days during the past 30 days.
Regular Binge Drinking:	Had five or more drinks within a couple of hours on three or more days during the past 30 days.
Regular Tobacco Use:	Smoked a cigarette daily during the past 30 days.
Marijuana Use:	Smoked marijuana at least once during the past 30 days.
Cocaine Use:	Used cocaine or crack at least once during the past 30 days.
Physical Fighting:	Was in a physical fight at least once during the past 12 months.
Weapon Carrying:	Carried a gun, knife, or other weapon at least once during the past 30 days.
Suicidal Thoughts:	Seriously considered attempting suicide in the past 12 months.
Suicide Attempt:	Attempted suicide in the past 12 months.
Sexual Intercourse:	Ever had sexual intercourse.

Figure 1a:
Prevalence of Sexual Experience and Violent Behaviors among Students in 9th-12th Grade, 1991--1997



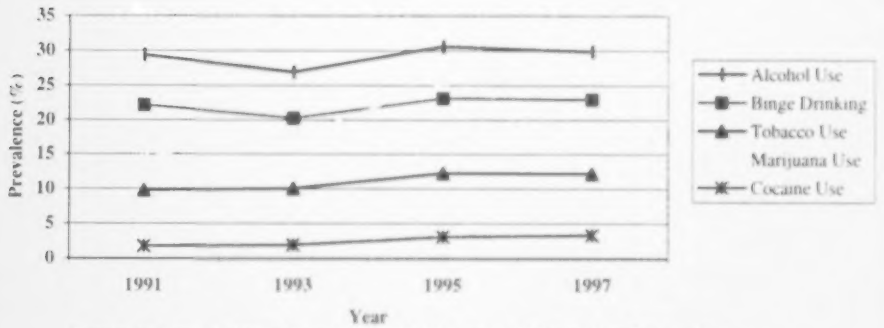
Source: Authors' tabulations from 1991, 1993, 1995, and 1997 Youth Risk Behavior Surveys.

Figure 1b:
Prevalence of Suicidal Behaviors among Students in 9th-12th Grade, 1991--1997



Source: Authors' tabulations from 1991, 1993, 1995, and 1997 Youth Risk Behavior Surveys.

Figure 1c:
Prevalence of Substance Use among Students in 9th-12th Grade, 1991--1997



Source: Authors' tabulations from 1991, 1993, 1995, and 1997 Youth Risk Behavior Surveys.

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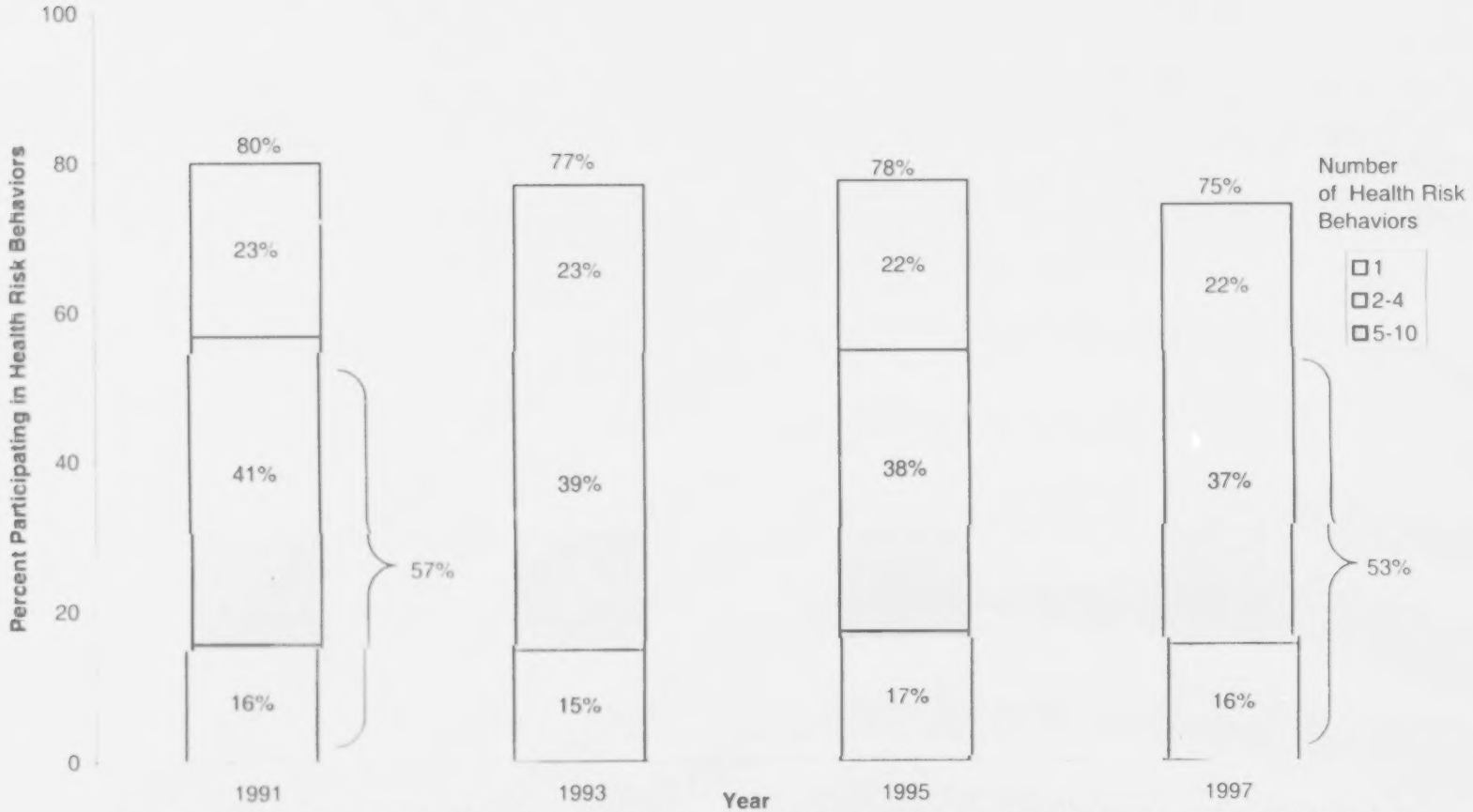
Figure 2:
Distribution of the Number of Health Risk Behaviors Engaged in by High School Students, by Year



*Health risk behaviors include: regular alcohol use, regular binge drinking, regular tobacco use, marijuana use, cocaine use, sexual intercourse, physical fighting, weapon carrying, suicidal thoughts, and suicide attempt.
Source: Authors' tabulations from 1991, 1993, 1995, and 1997 Youth Risk Behavior Surveys.

Table 2:
Changes in the Prevalence of Health Risk Behaviors among High School Students by Grade, Gender, Race/Ethnicity, and Year

	Health Risk Behavior									
	Regular Alcohol Use	Regular Binge Drinking	Regular Tobacco Use	Marijuana Use	Cocaine Use	Weapon Carrying	Physical Fighting	Suicidal Thoughts	Suicide Attempt	Sexual Intercourse
Total (%)										
1991	29.3	22.1	9.8	14.7	1.8	26.1	42.5	29.0	7.3	54.1
1997	29.8	22.9	12.2	26.2	3.3	18.3	36.6	20.5	7.7	48.4
Grade (%)										
Grades 9-10										
1991	23.3	16.3	7.6	11.5	1.3	27.1	46.7	29.3	8.4	43.7
1997	25.1	17.7	9.8	24.3	3.3	20.0	42.5	21.8	9.5	40.3
Grades 11-12										
1991	35.4	28.0	12.0	17.9	2.2	24.9	38.2	28.6	6.1	64.7
1997	34.1	27.7	14.4	27.9	3.3	16.8	31.4	19.4	6.1	55.6
Gender (%)										
Female										
1991	24.8	16.8	9.1	12.5	1.0	10.9	34.4	37.2	10.7	50.8
1997	24.9	17.3	11.3	21.5	2.4	7.0	26.0	27.1	11.6	47.7
Male										
1991	33.7	27.2	10.5	16.7	2.4	40.6	50.2	20.8	3.9	57.4
1997	34.0	27.6	13.0	30.2	4.0	27.7	45.5	15.1	4.5	48.9
Race/Ethnicity (%)										
Hispanic										
1991	30.7	20.8	4.0	14.4	3.1	25.8	41.4	26.9	7.9	53.1
1997	30.3	24.2	7.3	28.6	6.2	23.3	40.7	23.1	10.7	52.2
Non-Hispanic White										
1991	31.9	25.2	12.2	15.2	1.8	25.1	41.0	29.9	6.7	50.1
1997	32.1	26.1	14.4	25.0	3.1	17.0	33.7	19.5	6.3	43.7
Non-Hispanic Black										
1991	18.8	11.5	2.5	13.5	0.6	32.8	50.6	22.2	6.6	81.5
1997	17.9	9.4	5.5	28.2	0.7	21.7	43.0	16.4	7.3	72.7

Source: Authors' tabulations from 1991 and 1997 Youth Risk Behavior Surveys.

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Table 3:
Distribution of Number of Health Risk Behaviors among High School Students by Grade, Gender, Race/Ethnicity, and Year

	Number of Risk Behaviors *				
	0	1	2-4	5-10	Total
Total (%)					
1991	20.1	23.2	41.1	15.6	100
1997	25.9	22.0	36.5	15.6	100
Grade (%)					
Grades 9-10					
1991	24.2	23.2	39.4	13.2	100
1997	29.0	22.5	33.6	14.9	100
Grades 11-12					
1991	16.1	23.1	42.8	18.0	100
1997	23.1	21.5	39.2	16.3	100
Gender (%)					
Female					
1991	23.0	26.5	38.7	11.9	100
1997	30.4	23.6	34.0	12.1	100
Male					
1991	17.4	20.0	43.5	19.2	100
1997	22.2	20.7	38.6	18.5	100
Race/Ethnicity (%)					
Hispanic					
1991	21.1	23.0	42.6	13.4	100
1997	24.2	20.6	36.0	19.3	100
Non-Hispanic White					
1991	21.5	22.3	38.9	17.3	100
1997	27.4	22.1	35.0	15.6	100
Non-Hispanic Black					
1991	10.2	27.4	51.8	10.7	100
1997	17.2	26.1	45.7	11.0	100

* Health Risk Behaviors include regular alcohol use, regular binge drinking, regular tobacco use, marijuana use, cocaine use, sexual intercourse, physical fighting, weapon carrying, suicidal thoughts, and suicide attempt.

Source: Authors' tabulations from 1991 and 1997 Youth Risk Behavior Surveys.

Table 4:
Distribution of Number of Health Risk Behaviors among High School Students by Race/Ethnicity, Grade, and Year

	Number of Risk Behaviors*				
	0	1	2-4	5-10	Total
Total					
Grades 9-10					
1991	24.2	23.2	39.4	13.2	100
1997	29.0	22.5	33.6	14.9	100
Grades 11-12					
1991	16.1	23.1	42.8	18.0	100
1997	23.1	21.5	39.2	16.3	100
Hispanic					
Grades 9-10					
1991	23.9	21.0	44.2	10.9	100
1997	26.8	20.2	33.5	19.5	100
Grades 11-12					
1991	18.3	24.9	40.8	15.9	100
1997	21.5	21.0	38.6	19.0	100
Non-Hispanic White					
Grades 9-10					
1991	26.6	23.1	36.1	14.2	100
1997	32.0	22.2	31.7	14.1	100
Grades 11-12					
1991	16.4	21.4	41.8	20.4	100
1997	23.4	22.0	37.8	16.8	100
Non-Hispanic Black					
Grades 9-10					
1991	10.6	25.0	54.2	10.2	100
1997	18.8	25.9	43.8	11.5	100
Grades 11-12					
1991	9.7	29.9	49.3	11.0	100
1997	15.7	25.7	47.9	10.6	100

* Health Risk Behaviors include regular alcohol use, regular binge drinking, regular tobacco use, marijuana use, cocaine use, sexual intercourse, physical fighting, weapon carrying, suicidal thoughts, and suicide attempt.

Source: Authors' tabulations from 1991 and 1997 Youth Risk Behavior Surveys.